

ABSTRACT OF THE DISCLOSURE

A method of configuring IA-32 computer resources accommodates multiple operating systems and memory sizes automatically. If total available physical memory does not exceed 4GB, then the minimum required memory-mapped IO size is rounded up to the next multiple of 128M. Otherwise, it is rounded up to the next multiple of x, where x is a function of the number of DIMM socket pairs available. TOLM is set to 4GB minus the rounded memory-mapped IO size. For operating systems that can address only up to 4GB, the method chooses an acceptable value for TOLM because the granularity used to choose it is reasonably small--128MB. For operating systems that can address more than 4GB, the method chooses an exceptionally good value for TOLM: Regardless of the amount of memory available, the BIOS can define caching characteristics for all of the memory using at most 6 MTRR pairs.